

Joe Run
Herculaneum



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL SERVICES DIVISION

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115



MAR 10 1995

MEMORANDUM

1/17/95 SUBJECT: Transmittal of Inspection Report - Air

FROM: Peter Fulweiler *PF*
Environmental Engineer, COMP/EMCM/ENSV

TO: Mary A. Tietjen Mindrup
Chief, Air Compliance Section, ARBR/ARTX

THRU: Joe Arelllo, P.E.
Chief, Compliance Assurance Section, EMCM/ENSV

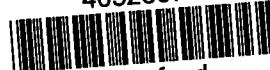
This memorandum transmits the following Air Compliance
Inspection Report prepared by the Compliance Assurance Section,
Environmental Monitoring and Compliance Branch, Environmental
Services Division.

| <u>Facility</u> | <u>AFS Number</u> | <u>Activity Number</u> |
|---|-------------------|------------------------|
| Doe Run Company <i>Z65</i> Herculaneum, MO | 29-099-0003 | SPT07 |

Attachments

5-01-31

40326071



Superfund

AIR COMPLIANCE INSPECTION REPORT

AT

DOE RUN COMPANY
881 MAIN STREET
HERCULANEUM, MISSOURI
63048

TELEPHONE NUMBER: (314) 933-3143

AFS PLANT I.D.: 29-099-0003

ON

JANUARY 31 - FEBRUARY 2, 1995

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Air and Toxics Division (ARTX), the Environmental Monitoring and Compliance Branch (EMCM), Compliance Assurance Section (COMP) conducted a Level C Multi-Media Compliance Inspection (MMCI) at the Doe Run Company facility in Herculaneum, Missouri. The purpose of the MMCI was to determine Doe Run's compliance status with applicable State and Federal air pollution, solid waste, and water pollution regulations.

PARTICIPANTS

Doe Run Company::

James Lanzafame, Environmental Manager
Daniel Vornberg, Director of Environmental Affairs

Missouri Department of Natural Resources:

James Burris, Environmental Engineer
Evan Kifer, Geologist

United States Environmental Protection Agency (EPA):

Kristan Goschen, Environmental Scientist
Bruce Littell, Biologist
Ted Fritz, Geologist
Peter Fulweiler, Environmental Engineer

INSPECTION PROCEDURES

We arrived at the Doe Run smelter at 9:00 a.m. on the 31st of January. We explained to Mr. Vornberg and Mr. Lanzafame the scope of the inspection that we intended to conduct. Mr. Goschen explained the procedures for claiming any information collected as confidential. The remainder of the morning was spent discussing general plant operation, water sampling and underground injection well issues. The afternoon was spent discussing RCRA issues and touring the facility.

We returned to the smelter at 8:30 a.m. on the 1st of February. The morning was spent discussing RCRA, water sampling and SIP (State Implementation Plan) issues. The afternoon was spent touring RCRA waste management areas and the sinter plant and discussing RCRA and air issues.

We held an inspection closing meeting in the morning on February 2nd during which inspection findings were discussed.

Due to the constraints imposed by conducting inspections under four programs at the same time, I did not inspect all of the air pollution control equipment at the smelter. Because not all of the air pollution control equipment was inspected I did not fill out Process Summary Sheets or Emissions Inventory Sheets. No excess visible emissions were seen. I did complete a Method 9 observation of the main stack. The results of this observation are included as attachment number 1.

PROCESS/FACILITY DESCRIPTION

The Doe Run smelter produces lead and sulfuric acid from lead ore concentrate. Lead ore is mined by the Doe Run Company at six locations in Missouri. The ore is concentrated in floatation chambers at four mills. The concentrate is taken to the Herculaneum facility for smelting.

The main constituent of the concentrate is lead sulfide (PbS). The concentrate is oxidized in the sinter plant, releasing SO₂, leaving lead oxide, PbO.

The lead oxide is reduced in one of three blast furnaces forming elemental lead. Impurities in the lead are then removed through various processes in the refining department.

The lead is cast into ingots or continuous cast into strips. Mr. Lanzafame told us that approximately 194,000 tons of lead were produced in 1994.

The sinter machine evolves sulfur laden gasses in two streams. The "heavy" stream at the start of the sinter process is collected and sent to the acid plant where sulfuric acid (H₂SO₄)

is produced. Mr. Lanzafame told us that approximately 50,000 tons of sulfuric acid are produced annually. The "light" (sulfur) stream, as well as other controlled exhaust streams are ducted to various baghouses.

OBSERVATIONS/FINDINGS

Herculaneum, Missouri is classified as nonattainment for the National Ambient Air Quality Standards (NAAQS) for lead. The basis for this nonattainment classification is the exceedance of the standard (1.5 ug of Pb/m³ of air) as measured at ambient air monitoring stations in the vicinity of the smelter. To bring Herculaneum into attainment with the NAAQS, two State Implementation Plan (SIP) agreements have been made with the Doe Run smelter. The 1990 plan required certain process and air pollution control modifications to be made and has a Work Practices Manual associated with it. The Work Practices manual details housekeeping, inspection and emission control requirements. The 1993 SIP agreement calls for further emissions reductions measures but was not Federally enforceable at the time of this inspection.

Doe Run is also subject to Missouri air pollution control rules governing lead smelting as well as several other provisions in the Missouri Air Pollution Control Rules.

One emission point (the South End Baghouse Project) at the smelter is subject to rules under the Federal New Source Performance Standards (NSPS) for Primary Lead Smelters.

I inspected the smelter for compliance with the earlier SIP agreement, the work practices manual, the Missouri Air Pollution Control Regulations and the NSPS.

I asked Mr. Lanzafame what is done at the smelter to curtail SO₂ emissions at the smelter. He told me that ambient monitors in the area are linked directly to the sinter plant control room and that if excess SO₂ is detected the sinter plant is slowed down or the acid plant production increased to curb these emissions. I asked if Doe Run maintains a complaint log and was told that they do not.

Ambient levels of lead are monitored in the vicinity of the smelter on every sixth day. Some of the monitors are operated by the smelter and some by the State of Missouri. I asked Mr. Lanzafame if the smelter designs its operating schedule in any way as to lessen emissions on monitoring days. He said they did not.

SUMMARY

The Doe Run Company operates a primary lead smelter in Herculaneum, Missouri. The EPA has designated the area within the city limits of Herculaneum as nonattainment for lead in the ambient air.

The Doe Run smelter is regulated by Missouri State regulations, a 1990 Consent Order and supplemental SIP agreement, and New Source Performance Standards (NSPS). A 1993 SIP agreement between Doe Run and the State of Missouri is in place but is not yet Federally enforceable.

I inspected records which are required to be kept by the 1990 SIP. These records appeared to be in order. I looked at equipment inspection, maintenance and housekeeping records as required by the work practices manual associated with the 1990 SIP. These records appeared to be in order. Test reports for the South End Baghouse Project (the NSPS affected facility at the smelter) indicate that the facility met NSPS emissions requirements at the time of testing.

The 1993 SIP requires addition measures to be taken should ambient air levels of lead continue to be exceeded. Fourth quarter 1994 test results for lead in the ambient air in Herculaneum indicate that the 1.5 ug/m³ have again been exceeded. See third and fourth quarter test results as attachment number 2.

Peter Fulweiler
Peter Fulweiler
Environmental Engineer
Date: 5/2/95
Activity Number: SPT05

Joe Arell
Joe Arell, P.E.
Chief, Compliance Assurance Section
Date: 5/8/95

Attachments:

1. Visible Emissions Evaluation Sheet, 1 page
2. Lead Monitoring Sites Reports, 6 pages

Attachment 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
VISIBLE EMISSIONS EVALUATION DATA SHEET

Date 1/31/95

Plant Name OKE RUN, HERCULANEUM

Observer DOUG FULTON

Address 881 MAIN ST, HERCULANEUM MO

Observation began 15:48
ended 15:55

Phone 314 933 3143

| Source Identification (Stack, Duct, etc.) | 0 | 15 | 30 | 45 | 0 | 15 | 30 | 45 |
|--|-------------------|----|----|----|----|----|----|----|
| <u>MAIN STACK</u> | 0 | 5 | 10 | 5 | 30 | | | |
| | 1 | 5 | 10 | 5 | 31 | | | |
| | 2 | 5 | 5 | 10 | 32 | | | |
| | 3 | 5 | 5 | 10 | 33 | | | |
| | 4 | 5 | 5 | 5 | 34 | | | |
| Observer Location (Diagram on back of sheet) | 5 | 5 | 5 | 10 | 35 | | | |
| Distance from Observer to source <u>14m</u> | 6 | 10 | 5 | 5 | 36 | | | |
| Height of Source (above ground) | 7 | | | | 37 | | | |
| Weather Conditions | 8 | | | | 38 | | | |
| Wind Conditions <u>SW S</u> | 9 | | | | 39 | | | |
| Wind Speed <u>5-10</u> | 10 | | | | 40 | | | |
| Temperature <u>45° F</u> | 11 | | | | 41 | | | |
| Relative Humidity | 12 | | | | 42 | | | |
| Position of Sun <u>TO BACK</u> | 13 | | | | 43 | | | |
| Sky Conditions <u>CLEAR</u> | 14 | | | | 44 | | | |
| (clear, overcast, % clouds, etc. color of clouds, etc.) | 15 | | | | 45 | | | |
| Plume Description | 16 | | | | 46 | | | |
| Color <u>CIGAR</u> | 17 | | | | 47 | | | |
| Background <u>BLUE SKY</u> | 18 | | | | 48 | | | |
| Type (wet or <u>dry</u>) Dist. | 19 | | | | 49 | | | |
| Plant Representatives Contacted | 20 | | | | 50 | | | |
| | 21 | | | | 51 | | | |
| | 22 | | | | 52 | | | |
| | 23 | | | | 53 | | | |
| | 24 | | | | 54 | | | |
| | 25 | | | | 55 | | | |
| | 26 | | | | 56 | | | |
| Comments <u>TAKEN FROM SOUTH OF STRIP MILL PARKING LOT</u> | 27 | | | | 57 | | | |
| | 28 | | | | 58 | | | |
| | 29 | | | | 59 | | | |
| Observer's Signature <u>DBL</u> | AVG 6.67% opacity | | | | | | | |
| Date of Last Recertification | | | | | | | | |

* if wet, distance (ft.) from plume outlet to point in plume where observations made.

Attachment 2

LEAD MONITORING SITES - QUARTERLY FAST TRACK REPORT

| AIRS NO | SITE LOCATION | SITE ABRV | MONITORING AGENCY | SAMPLING SCHEDULE |
|-------------|-------------------------------|-----------|---------------------|-------------------|
| | Holt Co., MO | | Schuylkill | |
| 29-087-0006 | North fence line | SKN | MDNR | every 6th day |
| 29-087-0007 | Derr Prop, south of plant | SKS | MDNR | every 6th day |
| | Iron Co., MO | | Doe Run Buick | |
| 29-093-0016 | Hwy KK, S of plant - DRB #1 | SD | Doe Run | every 6th day |
| 29-093-0020 | Hwy 32, NNW of plant - DRB #4 | NNW | Doe Run | every 6th day |
| 29-093-0021 | Hwy 32, N of plant - DRB #5 | NO | Doe Run | every 6th day |
| 29-093-0022 | Hwy 32, NW of plant - DRB #6 | NW | Doe Run | every 6th day |
| | Iron Co., MO | | ASARCO, Glover | |
| 29-093-0023 | McHenry Res, Hogan | HOG | MDNR | every 3rd day |
| 29-093-0024 | Dunn, Glover | DUN | MDNR | every 3rd day |
| 29-093-0026 | Chloride, - ASARCO #1 | CHL | ASARCO | every other day |
| 29-093-0027 | Post Off, Glover - ASARCO #2 | PO | ASARCO | every other day |
| 29-093-0025 | North (Hogan), - ASARCO #3 | NO | ASARCO | every other day |
| 29-093-0029 | Big Creek, Glover - ASARCO #5 | BC | ASARCO | every other day |
| 29-093-0030 | Tyndell Prop, Glover | TYN | MDNR | every 3rd day |
| | Jefferson Co., MO | | Doe Run, Herculaeum | |
| 29-099-0005 | Dunklin High School | MHS | MDNR | every 6th day |
| 29-099-0005 | Dunklin High School, - DRH #3 | DHS | Doe Run | every 6th day |
| 29-099-0008 | Golf Course, - DRH #2 | GLF | Doe Run | every 6th day |
| 29-099-0009 | North (Dow), - DRH #4 | NO | Doe Run | every 6th day |
| 29-099-0010 | Ursuline Academy, - DRH #1 | URS | Doe Run | every 6th day |
| 29-099-0011 | Rutz Home, - DRH #5 | RUT | Doe Run | every 6th day |
| 29-099-0013 | Div Managers Home, - DRH #6 | DMH | Doe Run | every 6th day |
| 29-099-0015 | A & Broad Sts, - DRH #7 | BRD | Doe Run | every 6th day |
| | Omaha, NE | | ASARCO | |
| 31-055-0011 | 11th & Nicholas | NIC | Douglas Co | every 6th day |
| 31-055-0041 | 4th & Jones | JON | Douglas Co | every 6th day |
| 31-055-0042 | 700 Abbott Dr | ABB | Douglas Co | every other day |
| 31-055-0046 | Riverfront | RIV | Douglas Co | every other day |
| 31-055-00 | Railroad Yard | RRY | Douglas Co | every other day |

QUARTERLY LEAD DATA REPORT - OCTOBER / DECEMBER 94

All data in units of ug/m³

Doe Run Buick

Schuylkill

| DATE | SO | NNW | NO | NW | DATE | SKN | SKS |
|-------|------|------|------|------|-------|------|------|
| 10/05 | 1.00 | 1.89 | 0.87 | 0.97 | 10/05 | 1.13 | 0.22 |
| 10/11 | 0.39 | 0.60 | 0.73 | 0.14 | 10/11 | 1.80 | 0.17 |
| 10/17 | 0.76 | 0.44 | 0.72 | 0.16 | 10/17 | | 0.14 |
| 10/23 | 1.71 | 0.22 | 0.13 | 0.11 | 10/23 | | 1.02 |
| 10/29 | 0.66 | 0.63 | 0.98 | 0.09 | 10/29 | 1.19 | 0.58 |
| 11/04 | 1.41 | 0.17 | 1.48 | 0.55 | 11/04 | 0.35 | 0.10 |
| 11/10 | 0.24 | 0.52 | 1.03 | 0.10 | 11/10 | | 0.20 |
| 11/16 | 0.23 | 0.27 | 0.11 | 0.36 | 11/16 | 0.51 | 0.21 |
| 11/22 | 0.96 | 0.01 | 0.09 | 0.03 | 11/22 | 0.53 | 0.73 |
| 11/28 | 0.33 | 0.40 | 0.25 | 0.32 | 11/28 | 0.57 | 0.34 |
| 12/04 | 0.38 | 0.52 | 0.37 | 1.19 | 12/04 | 0.50 | 0.43 |
| 12/10 | 0.95 | 0.12 | 0.21 | 0.12 | 12/10 | 0.21 | 1.09 |
| 12/16 | | 0.12 | 0.21 | 0.12 | 12/16 | 0.90 | 0.10 |
| 12/22 | | 0.31 | 0.16 | 0.23 | 12/22 | 0.19 | |
| 12/28 | 1.20 | 0.50 | 0.47 | 0.21 | 12/28 | 0.29 | 0.40 |

Qtr Avg 0.79 0.45 0.52 0.31 Qtr Avg 0.93 0.41

Doe Run Herculaneum

| DATE | MHS | DHS | GLF | NO | URS | RUT | DMH | BRD |
|-------|-------|-------|------|------|------|------|------|-------|
| 10/05 | 2.86 | 1.22 | 0.43 | 0.18 | 0.61 | 0.60 | 0.97 | 4.56 |
| 10/11 | 0.20 | 0.01 | 0.52 | 0.01 | 0.01 | 0.11 | 0.25 | 22.63 |
| 10/17 | 13.15 | 11.99 | 0.16 | 2.00 | 0.01 | 0.98 | 4.08 | 1.40 |
| 10/23 | 0.63 | 0.18 | 0.01 | 0.01 | 0.01 | 0.37 | 0.20 | 0.48 |
| 10/29 | 4.37 | 3.20 | 0.25 | 0.37 | 0.16 | 5.95 | 4.81 | 2.17 |
| 11/04 | 4.91 | 3.40 | 0.04 | 0.50 | 0.02 | 5.71 | 0.87 | 1.68 |
| 11/10 | 0.41 | 0.11 | 0.04 | 0.08 | 0.03 | 0.08 | 0.20 | 1.81 |
| 11/16 | 1.47 | 0.68 | 0.41 | 0.12 | 0.36 | 0.52 | 0.52 | 0.49 |
| 11/22 | 0.07 | 0.19 | 0.01 | 0.09 | 0.21 | 0.17 | 0.20 | 0.24 |
| 11/28 | 0.20 | 0.01 | 0.01 | 0.01 | 0.01 | 0.25 | 0.06 | 0.18 |
| 12/04 | 1.03 | 0.44 | 1.32 | 0.33 | 0.01 | 0.20 | 0.29 | 7.26 |
| 12/10 | 0.11 | 0.00 | 0.01 | 0.01 | 0.05 | 0.10 | 0.01 | 0.39 |
| 12/16 | 1.67 | 0.01 | 0.18 | 0.20 | 0.01 | 0.12 | 0.21 | 3.00 |
| 12/22 | 0.14 | 0.07 | 0.01 | 0.07 | 0.40 | 0.01 | 0.10 | 0.19 |
| 12/28 | 0.15 | 0.03 | 0.04 | 0.03 | 0.06 | 1.06 | 0.10 | 0.35 |

Qtr Avg 2.09* 1.44 0.23 0.27 0.13 1.08 0.86 3.12*

* = Quarterly average value exceeds the Pb NAAQS of 1.5ug/m³.

= Less than 75% of the values for the 6 day schedule.

+ = All of the above sites operate on the 6 day sampling schedule.

QUARTERLY LEAD DATA REPORT - OCTOBER / DECEMBER 94

All data in units of ug/m³

| ASARCO, Glover | | | | | ASARCO, Glover | | | | | ASARCO, Glover | | | | |
|----------------|------|------|-------|--------|----------------|------|-------|--------|------|----------------|-----|-------|--|--|
| DATE | HOG | TYN | DUN | DATE | HOG | TYN | DUN | DATE | HOG | TYN | DUN | | | |
| 10/02 | 0.22 | 1.23 | 11.90 | 11/01 | 4.08 | | | 12/01 | 3.71 | 2.88 | | 14.50 | | |
| +10/05 | 0.66 | 1.21 | 9.56 | +11/04 | 0.96 | 0.49 | 1.98 | +12/04 | 0.22 | 1.71 | | 4.67 | | |
| 10/08 | 1.40 | 0.65 | 3.32 | 11/07 | 3.33 | 2.01 | 1.62 | 12/07 | 0.17 | 1.00 | | | | |
| +10/11 | 0.98 | 0.21 | 5.59 | +11/10 | 0.17 | 0.22 | 4.88 | +12/10 | 0.08 | 0.46 | | | | |
| 10/14 | 0.23 | 1.97 | 10.03 | 11/13 | 0.48 | 0.12 | 9.05 | 12/13 | 0.12 | 0.31 | | 2.03 | | |
| +10/17 | 3.14 | 0.52 | 6.47 | +11/16 | 0.23 | 0.55 | 12.17 | +12/16 | 2.15 | 0.41 | | 0.52 | | |
| 10/20 | 0.43 | 3.04 | 6.12 | 11/19 | 0.10 | 0.81 | 13.44 | 12/19 | 1.96 | 0.60 | | 5.39 | | |
| +10/23 | 0.19 | | | +11/22 | 0.14 | 1.63 | 5.16 | +12/22 | | 2.03 | | 5.62 | | |
| 10/26 | 2.05 | | | 11/25 | 0.97 | 0.27 | 6.32 | 12/25 | 0.87 | 0.49 | | | | |
| +10/29 | 1.73 | | | +11/28 | 0.15 | 0.27 | 0.66 | +12/28 | | 3.19 | | 16.06 | | |
| | | | | | | | | 12/31 | | 0.66 | | 0.89 | | |

Qtr Avg 1.10 1.07 6.58*

| ASARCO, Glover | | | | ASARCO, Glover | | | | ASARCO, Glover | | | | |
|----------------|------|------|-------|----------------|--------|------|------|----------------|-------|--------|------|------|
| DATE | NO | CHL | PO | DATE | NO | CHL | PO | DATE | NO | CHL | PO | |
| 10/02 | 0.11 | 0.65 | 0.39 | 3.53 | 11/01 | 2.06 | 3.31 | | 16.82 | 12/01 | 2.58 | 5.16 |
| +10/05 | 0.45 | 2.51 | 10.56 | 16.18 | +11/04 | 2.43 | 3.65 | 2.22 | | +12/04 | 0.12 | 2.47 |
| 10/08 | 2.01 | 0.68 | 0.48 | 2.17 | 11/07 | 2.77 | 0.06 | 3.85 | 6.45 | 12/07 | 0.13 | 0.72 |
| +10/11 | 0.12 | 0.88 | 1.01 | 6.28 | +11/10 | 0.07 | 2.16 | 0.16 | 0.92 | +12/10 | 0.38 | 0.45 |
| 10/14 | 0.12 | 1.46 | 1.84 | 3.08 | 11/13 | 0.14 | 0.06 | 0.49 | 0.05 | 12/13 | 0.27 | 0.22 |
| +10/17 | 2.08 | 0.38 | 2.72 | 1.03 | +11/16 | 0.13 | 0.95 | 0.37 | 4.45 | +12/16 | 0.64 | 0.07 |
| 10/20 | 0.34 | 3.95 | 4.32 | 14.17 | 11/19 | 0.12 | 0.70 | 0.64 | 2.74 | 12/19 | 2.52 | 1.18 |
| +10/23 | 0.12 | 0.37 | 2.39 | 8.80 | +11/22 | 0.38 | 1.76 | 1.91 | 4.12 | +12/22 | 0.18 | 1.76 |
| 10/26 | 3.16 | | 16.60 | 23.26 | 11/25 | 2.61 | 0.44 | 6.42 | 0.65 | 12/25 | 0.13 | 0.64 |
| +10/29 | 2.68 | | 11.04 | 20.21 | +11/28 | 0.49 | 0.65 | 8.12 | 0.93 | +12/28 | 8.66 | 7.54 |
| | | | | | | | | | | 12/31 | 0.13 | 0.90 |

Qtr Avg 1.23 1.58* 4.94* 7.30*

| ASARCO, Omaha | | | | | | ASARCO, Omaha | | | | | | ASARCO, Omaha | | | | | |
|---------------|-------|------|-----|------|------|---------------|------|------|-----|------|------|---------------|------|------|-----|------|------|
| DATE | ABB | RIV | RRY | NIC | JON | DATE | ABB | RIV | RRY | NIC | JON | DATE | ABB | RIV | RRY | NIC | JON |
| 10/01 | 0.20 | 3.17 | | | | 11/02 | 2.51 | 0.53 | | | | 12/02 | 1.34 | 0.05 | | | |
| 10/03 | 0.20 | 0.48 | | | | +11/04 | 0.14 | 2.99 | | 0.03 | 0.20 | +12/04 | 0.06 | 4.55 | | 0.07 | 0.63 |
| +10/05 | 0.36 | 0.06 | | 0.57 | 0.02 | 11/06 | 0.22 | 1.38 | | | | 12/06 | 0.13 | | | | |
| 10/07 | 0.09 | 2.47 | | | | 11/08 | 0.23 | 0.27 | | | | 12/08 | 0.04 | 3.99 | | | |
| 10/09 | 0.07 | | | | | +11/10 | 0.38 | 0.09 | | 0.39 | 0.04 | +12/10 | 0.06 | | | 0.06 | 0.03 |
| +10/11 | 1.37 | 0.05 | | 0.48 | 0.02 | 11/12 | 3.70 | 0.05 | | | | 12/12 | | 0.19 | | | |
| 10/13 | 0.14 | 1.03 | | | | 11/14 | 0.28 | | | | | 12/14 | 0.11 | 0.12 | | | |
| 10/15 | 0.25 | 0.02 | | | | +11/16 | 3.42 | 0.09 | | 1.51 | 0.02 | +12/16 | 0.60 | 0.21 | | 0.39 | 0.01 |
| +10/17 | 1.94 | 0.01 | | 0.57 | 0.01 | 11/18 | 0.17 | 4.11 | | | | 12/18 | 0.04 | 0.21 | | | |
| 10/19 | 0.25 | 2.26 | | | | 11/20 | 0.10 | 0.18 | | | | 12/20 | 0.23 | 0.52 | | | |
| 10/21 | 0.86 | 0.08 | | | | +11/22 | 0.07 | 0.98 | | 0.01 | 0.01 | +12/22 | 0.16 | 0.55 | | 0.02 | 0.07 |
| +10/23 | 0.18 | 0.53 | | 0.04 | 0.03 | 11/24 | 1.66 | 0.74 | | | | 12/24 | 0.56 | 0.03 | | | |
| 10/25 | 0.13 | 6.60 | | | | 11/26 | 0.18 | | | | | 12/26 | 0.60 | 0.01 | | | |
| 10/27 | 14.81 | 0.10 | | | | +11/28 | 0.07 | 0.15 | | 0.02 | 0.01 | +12/28 | 0.03 | 0.68 | | 0.03 | 0.01 |
| +10/29 | 0.42 | 7.19 | | 0.10 | 0.62 | 11/30 | 2.52 | 0.03 | | | | 12/30 | 0.94 | 0.19 | | | |
| 10/31 | 0.84 | 0.49 | | | | | | | | | | Qtr Avg | 0.95 | 1.16 | | 0.29 | 0.12 |

+ = Sample dates that constitute the 6 day schedule.

* = Quarterly average value exceeds the Pb NAAQS of 1.5ug/m³.

= Less than 75% of the values for the 6 day schedule.

LEAD MONITORING SITES - QUARTERLY FAST TRACK REPORT

| AIRS No | SITE LOCATION | SITE ABRV | MONITORING AGENCY | SAMPLING SCHEDULE | MONITORING |
|-------------|-------------------------------|---------------------|-------------------|-------------------|----------------------------|
| | | | | | JAN 15, 21, 27 FEB 2, 8 |
| | Holt Co., MO | Schuylkill | | | |
| 29-087-0006 | North fence line | SKN | MDNR | every 6th day | |
| 29-087-0007 | Derr Prop, south of plant | SKS | MDNR | every 6th day | |
| | Iron Co., MO | Doe Run Buick | | | |
| 29-093-0016 | Hwy KK, S of plant - DRB #1 | SO | Doe Run | every 6th day | |
| 29-093-0020 | Hwy 32, NNW of plant - DRB #4 | NNW | Doe Run | every 6th day | |
| 29-093-0021 | Hwy 32, N of plant - DRB #5 | NO | Doe Run | every 6th day | |
| 29-093-0022 | Hwy 32, NW of plant - DRB #6 | NW | Doe Run | every 6th day | |
| | Iron Co., MO | ASARCO, Glover | | | |
| 29-093-0023 | McHenry Res, Hogan | HOG | MDNR | every 3rd day | |
| 29-093-0024 | Dunn Res, Glover | DUN | MDNR | every 3rd day | |
| 29-093-0026 | Chloride, - ASARCO #1 | CHL | ASARCO | every 3rd day | |
| 29-093-0027 | Post Off, Glover - ASARCO #2 | PO | ASARCO | every 3rd day | |
| 29-093-0025 | North (Hogan), - ASARCO #3 | NO | ASARCO | every 3rd day | |
| 29-093-0029 | Big Creek, Glover - ASARCO #5 | BC | ASARCO | every 3rd day | |
| 29-093-0030 | Tyndell Property | TYN | MDNR | every 3rd day | |
| | Jefferson Co., MO | Doe Run, Herculaeum | | | |
| 29-099-0005 | Dunklin High School | MHS | MDNR | every 6th day | |
| 29-099-0005 | Dunklin High School, - DRH #3 | DHS | Doe Run | every 6th day | |
| 29-099-0008 | Golf Course, - DRH #2 | GLF | Doe Run | every 6th day | |
| 29-099-0009 | North (Dow), - DRH #4 | NO | Doe Run | every 6th day | |
| 29-099-0010 | Ursuline Academy, - DRH #1 | URS | Doe Run | every 6th day | |
| 29-099-0011 | Rutz Home, - DRH #5 | RUT | Doe Run | every 6th day | |
| 29-099-0013 | Div Managers Home, - DRH #6 | DMH | Doe Run | every 6th day | |
| 29-099-0015 | A & Broad Sts, - DRH #7 | BRD | Doe Run | every 6th day | |
| | Omaha, NE | ASARCO | | | |
| 31-055-0011 | 11th & Nicholas | NIC | Douglas Co | every 6th day | |
| 31-055-0041 | 4th & Jones | JON | Douglas Co | every 6th day | |
| 31-055-0042 | 700 Abbott Dr | ABB | Douglas Co | every day | |
| 31-055-0046 | Riverfront | RIV | Douglas Co | every other day | |

QUARTERLY LEAD DATA REPORT - JULY / SEPTEMBER 94 All data in units of ug/m³

Doe Run Buick

Schuylkill

| DATE | SO | NNW | NO | NW | DATE | SKN | SKS |
|---------|------|------|------|------|---------|-------|------|
| 07/01 | 1.55 | 0.96 | 0.55 | 0.56 | 07/01 | 2.07 | 0.17 |
| 07/07 | 0.52 | 0.46 | 0.69 | 0.20 | 07/07 | 0.62 | 0.90 |
| 07/13 | 0.63 | 0.59 | 1.30 | 0.40 | 07/13 | 0.32 | 0.94 |
| 07/19 | 0.50 | 0.25 | 1.29 | 0.17 | 07/19 | 4.41 | 0.07 |
| 07/25 | 0.57 | 0.33 | 0.23 | 0.12 | 07/25 | 0.17 | 0.36 |
| 07/31 | 0.12 | 0.17 | 0.94 | 0.12 | 07/31 | 2.02 | 0.15 |
| | | | | | | | |
| 08/06 | 0.16 | 0.51 | 0.08 | 0.64 | 08/06 | 2.52 | 0.08 |
| 08/12 | 0.43 | 0.05 | 0.51 | 0.19 | 08/12 | 3.34 | 0.08 |
| 08/18 | 0.65 | 0.52 | 0.30 | 0.05 | 08/18 | 1.63 | 0.15 |
| 08/24 | 0.24 | 0.05 | 0.22 | 0.05 | 08/24 | 2.46 | 0.14 |
| 08/30 | 0.19 | 1.06 | 0.82 | 0.39 | 08/30 | 0.69 | 1.48 |
| | | | | | | | |
| 09/05 | 0.05 | 0.10 | 0.19 | 0.05 | 09/05 | 0.52 | 0.55 |
| 09/11 | 0.14 | 1.53 | 0.05 | 1.98 | 09/11 | 4.40 | 0.19 |
| 09/17 | 5.56 | 0.14 | 0.15 | 0.03 | 09/17 | 0.36 | 1.05 |
| 09/23 | 0.06 | 0.02 | 0.02 | 0.02 | 09/23 | 0.30 | 0.70 |
| 09/29 | 0.58 | 1.15 | 0.08 | 0.74 | 09/29 | 4.54 | 0.41 |
| | | | | | | | |
| Qtr Avg | 0.80 | 0.53 | 0.49 | 0.38 | Qtr Avg | 1.90* | 0.49 |

Doe Run Herculaneum

ASARCO, Clover

| DATE | MHS | DHS | GLF | NO | URS | RUT | DMH | BRD | DATE | TYN | DATE | TYN |
|---------|-------|------|------|------|------|------|------|-------|--------|--------|--------|------|
| 07/01 | 2.20 | 1.42 | 0.04 | 0.63 | 0.01 | 1.54 | 1.00 | 1.39 | +07/01 | 3.27 | +08/18 | |
| 07/07 | 3.04 | 1.75 | 0.01 | 0.01 | 0.01 | 0.01 | 0.22 | 2.35 | 07/04 | 1.38 | 08/21 | 1.09 |
| 07/13 | 2.10 | | 0.01 | 0.23 | 0.01 | 0.70 | 0.44 | 5.56 | +07/07 | 1.07 | +08/24 | 1.10 |
| 07/19 | | | 0.01 | 0.26 | 0.01 | 1.29 | 0.86 | 1.90 | 07/10 | 0.44 | 08/27 | |
| 07/25 | 0.38 | 0.16 | 0.02 | 0.07 | 0.33 | 0.58 | 0.27 | | +07/13 | 2.86 | +08/30 | 0.41 |
| 07/31 | 2.96 | 1.92 | 0.04 | 0.21 | 0.06 | 1.90 | 0.85 | | 07/16 | 2.42 | | |
| | | | | | | | | | +07/19 | 1.47 | 09/02 | 0.34 |
| 08/06 | 1.25 | 0.71 | 0.21 | 0.14 | 0.42 | 0.51 | | 5.60 | 07/22 | 0.90 | +09/05 | 0.25 |
| 08/12 | 3.30 | 3.48 | 0.41 | 0.62 | 0.01 | 1.18 | 1.14 | 4.60 | +07/25 | 0.73 | 09/08 | 0.16 |
| 08/18 | 0.90 | 1.01 | 0.42 | 0.96 | 0.01 | 1.81 | 0.80 | 7.70 | 07/28 | 2.28 | +09/11 | 0.55 |
| 08/24 | 1.93 | 1.70 | 0.09 | 0.61 | 0.04 | 1.43 | 1.05 | 2.21 | +07/31 | 0.77 | 09/14 | 0.85 |
| 08/30 | 1.31 | 0.70 | 0.13 | 0.43 | 0.06 | 0.85 | 0.52 | 6.51 | | +09/17 | 1.58 | |
| | | | | | | | | | 08/03 | 2.21 | 09/20 | 0.47 |
| 09/05 | 1.34 | 1.27 | 0.07 | 0.52 | 0.20 | 0.22 | 0.23 | 0.83 | +08/06 | 1.30 | +09/23 | 0.50 |
| 09/11 | 2.01 | 1.69 | 0.35 | 0.26 | 0.01 | 1.48 | 0.56 | | 08/09 | 1.25 | 09/26 | 0.42 |
| 09/17 | 0.35 | 0.01 | 0.01 | 0.01 | | 0.24 | 0.08 | | +08/12 | 0.74 | +09/29 | |
| 09/23 | 1.58 | 1.29 | 0.11 | 0.34 | 0.06 | 0.76 | 0.37 | 5.35 | 08/15 | 4.35 | | |
| 09/29 | 1.63 | 1.43 | 0.06 | 0.07 | 0.05 | 0.57 | 0.97 | 2.97 | | | | |
| | | | | | | | | | | | | |
| Qtr Avg | 1.75* | 1.32 | 0.12 | 0.34 | 0.09 | 0.94 | 0.62 | 3.91* | | | | |
| | | | | | | | | | | | | |
| Qtr Avg | 1.75* | 1.32 | 0.12 | 0.34 | 0.09 | 0.94 | 0.62 | 3.91* | | | | |
| | | | | | | | | | | | | |
| Qtr Avg | 1.75* | 1.32 | 0.12 | 0.34 | 0.09 | 0.94 | 0.62 | 3.91* | | | | |

* = Quarterly average value exceeds the Pb NAAQS of 1.5ug/m³.

= Less than 75% of the values for the 6 day schedule.

+ = All of the above sites operate on the 6 day sampling schedule.

QUARTERLY LEAD DATA REPORT - JULY / SEPTEMBER 94 All data in units of ug/m³

| ASARCO, Glover | | | | | | | | ASARCO, Glover | | | | | | | | ASARCO, Glover | | | | | | | |
|----------------|------|-------|------|-------|------|-------|--------|----------------|-------|------|-------|------|-------|--------|------|----------------|------|-------|-------|-------|--|--|--|
| DATE | HOG | DUN | CHL | PO | NO | BC | DATE | HOG | DUN | CHL | PO | NO | BC | DATE | HOG | DUN | CHL | PO | NO | BC | | | |
| +07/01 | 2.06 | 11.90 | 2.11 | 3.32 | 4.45 | 23.55 | 08/03 | 0.85 | 12.17 | 2.17 | 20.75 | 1.23 | 18.00 | 09/02 | 0.12 | 3.63 | 0.23 | 4.83 | 0.10 | 0.09 | | | |
| 07/04 | 2.47 | 9.56 | 0.64 | 12.86 | 4.69 | 14.57 | +08/06 | 0.59 | 13.44 | 6.49 | 9.07 | 1.11 | 24.41 | +09/05 | 0.37 | 0.94 | 0.09 | 6.31 | 0.45 | 0.64 | | | |
| +07/07 | 0.33 | 3.32 | 3.77 | 2.52 | 0.62 | 1.07 | 08/09 | 0.88 | 5.16 | 0.88 | 24.12 | 1.70 | 7.71 | 09/08 | 0.21 | 0.18 | 1.46 | 0.12 | 5.47 | | | | |
| 07/10 | 0.25 | 5.59 | 0.73 | 0.72 | 0.12 | 10.71 | +08/12 | 0.62 | 6.32 | 1.54 | 7.22 | 0.86 | 10.79 | +09/11 | 0.19 | 2.18 | 0.58 | 0.10 | 17.92 | | | | |
| +07/13 | 0.86 | 10.03 | 6.79 | 14.19 | 1.61 | 15.68 | 08/15 | 0.10 | 12.51 | 4.45 | 1.13 | 0.11 | 19.76 | 09/14 | 0.55 | 5.54 | 1.00 | 24.41 | 0.55 | 10.90 | | | |
| 07/16 | 0.41 | 6.47 | 2.74 | 14.08 | 0.74 | 11.74 | +08/18 | 0.93 | 16.41 | 2.14 | 12.54 | 2.02 | 37.76 | +09/17 | 0.10 | 5.91 | 2.27 | 2.08 | 0.10 | 9.71 | | | |
| +07/19 | 4.20 | 6.12 | 2.30 | 51.43 | 9.26 | 11.97 | 08/21 | 0.18 | 3.54 | 2.67 | 2.74 | 0.11 | 7.18 | 09/20 | 0.33 | 6.52 | 1.26 | 0.10 | 13.53 | | | | |
| 07/22 | | 1.98 | 0.37 | 21.27 | 0.49 | 2.27 | +08/24 | 1.39 | 18.03 | 1.27 | 22.84 | 3.09 | 41.35 | +09/23 | 0.94 | 1.26 | 0.27 | 2.18 | 1.50 | 1.25 | | | |
| +07/25 | 0.46 | 1.62 | 0.46 | 1.43 | 0.37 | 1.23 | 08/27 | 2.30 | 10.32 | | 3.16 | 1.56 | 12.00 | 09/26 | 4.16 | 0.45 | 7.44 | 6.88 | 1.57 | | | | |
| 07/28 | 0.07 | 4.88 | 2.27 | 6.89 | 0.13 | 13.08 | +08/30 | 0.87 | 2.14 | 0.62 | 4.75 | 0.89 | 2.12 | +09/29 | 0.35 | | 2.20 | 2.32 | 0.23 | 15.27 | | | |
| +07/31 | 0.77 | 9.05 | 1.20 | 12.44 | 1.39 | 18.64 | | | | | | | | | | | | | | | | | |

Qtr Avg 0.93 7.20* 1.86*10.04* 1.51*12.32*

| ASARCO, Omaha | | | | | ASARCO, Omaha | | | | | ASARCO, Omaha | | | | |
|---------------|------|------|------|------|---------------|------|------|------|------|---------------|-------|-------|------|------|
| DATE | ABB | RIV | NIC | JON | DATE | ABB | RIV | NIC | JON | DATE | ABB | RIV | NIC | JON |
| +07/01 | 0.44 | 0.76 | 0.45 | 0.07 | 08/01 | 0.42 | | | | 09/01 | 0.07 | 0.28 | | |
| 07/02 | 0.03 | | | | 08/02 | 0.32 | 0.05 | | | 09/02 | 2.41 | | | |
| 07/03 | 0.24 | 0.02 | | | 08/03 | 2.22 | | | | 09/03 | 1.26 | 0.06 | | |
| 07/04 | 2.13 | | | | 08/04 | 0.09 | 4.65 | | | 09/04 | 5.29 | | | |
| 07/05 | | | | | 08/05 | 0.43 | | | | +09/05 | 0.05 | 7.23 | 0.02 | 0.64 |
| 07/06 | 1.05 | | | | +08/06 | 1.69 | 0.04 | 0.81 | 0.01 | 09/06 | | | | |
| +07/07 | 0.32 | 4.80 | 0.09 | 0.12 | 08/07 | 0.58 | | | | 09/07 | 4.48 | | | |
| 07/08 | 0.03 | | | | 08/08 | 0.78 | 1.61 | | | 09/08 | 3.48 | | | |
| 07/09 | 0.03 | 1.99 | | | 08/09 | 1.62 | | | | 09/09 | 6.16 | 0.03 | | |
| 07/10 | 2.01 | | | | 08/10 | 2.49 | 0.87 | | | 09/10 | 7.57 | | | |
| 07/11 | 3.95 | 0.05 | | | 08/11 | 0.07 | | | | +09/11 | 5.35 | 0.03 | 0.81 | 0.01 |
| 07/12 | 1.10 | | | | +08/12 | 1.55 | 0.15 | 0.44 | 0.03 | 09/12 | 9.07 | | | |
| +07/13 | 0.11 | 4.37 | 0.06 | 0.25 | 08/13 | 0.06 | | | | 09/13 | 15.92 | 0.08 | | |
| 07/14 | 0.15 | | | | 08/14 | 0.03 | 0.57 | | | 09/14 | 12.00 | | | |
| 07/15 | 0.25 | 0.06 | | | 08/15 | 0.54 | | | | 09/15 | 6.75 | 0.17 | | |
| 07/16 | 0.11 | | | | 08/16 | 1.81 | 0.04 | | | 09/16 | 0.09 | | | |
| 07/17 | 0.20 | 0.20 | | | 08/17 | 3.63 | | | | +09/17 | 0.03 | 4.39 | 0.02 | 0.81 |
| 07/18 | 2.61 | | | | +08/18 | 1.21 | 0.03 | 0.33 | 0.06 | 09/18 | 0.19 | | | |
| +07/19 | | 1.76 | 0.51 | 0.28 | 08/19 | 0.66 | | | | 09/19 | 3.76 | 0.07 | | |
| 07/20 | 0.25 | | | | 08/20 | 0.05 | 5.78 | | | 09/20 | 8.53 | | | |
| 07/21 | | 1.59 | | | 08/21 | 0.08 | | | | 09/21 | 3.72 | 9.16 | | |
| 07/22 | 0.04 | | | | 08/22 | 1.09 | 0.10 | | | 09/22 | 0.09 | | | |
| 07/23 | 0.22 | 0.20 | | | 08/23 | 3.74 | | | | +09/23 | 0.07 | 1.50 | 0.01 | 0.36 |
| 07/24 | 0.20 | | | | +08/24 | 4.11 | 0.04 | 0.77 | 0.09 | 09/24 | 0.03 | | | |
| +07/25 | 0.14 | 0.46 | 0.16 | 0.14 | 08/25 | | | | | 09/25 | 0.02 | 27.09 | | |
| 07/26 | 0.03 | | | | 08/26 | 3.25 | 0.04 | | | 09/26 | 0.04 | | | |
| 07/27 | 0.06 | 7.18 | | | 08/27 | 3.09 | | | | 09/27 | 1.13 | 3.54 | | |
| 07/28 | 0.09 | | | | 08/28 | 2.27 | | | | 09/28 | 0.25 | | | |
| 07/29 | 0.35 | 0.12 | | | 08/29 | 1.83 | | | | +09/29 | 9.27 | 0.20 | 5.55 | 0.03 |
| 07/30 | 1.96 | | | | +08/30 | 1.58 | 2.52 | 0.20 | 0.51 | 09/30 | 19.11 | | | |
| +07/31 | 2.74 | 0.20 | 0.52 | 0.02 | 08/31 | 0.05 | | | | | | | | |

+ = Sample dates that constitute the 6 day schedule.

* = Quarterly average value exceeds the Pb NAAQS of 1.5ug/m³.

= Less than 75% of the values for the 6 day schedule.

Qtr Av 2.16* 2.19* 0.67 0.21